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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/625,287

07/23/2003

Jung Kook Park

CU-3301 RJS

7895

26530

7590

11/28/2005

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EXAMINER

XIAO, KE

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/625,287		PARK ET AL.	
	Examiner		Art Unit	
	Ke Xiao		2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to because of the following informalities:

Fig. 3 fails to show that the output of SR30 is connected to the 3rd bus line from the left as described in the specification. As the drawing stands the 3rd bus line from left is floating and therefore is functionless.

Fig. 4 fails to show a ground connected to C1 and R1 as described in the specification. As the drawing stands C1 and R2 and simply in a loop connected to the non-inverting port of the operational amplifier.

Fig. 6 mislabels STV2 CPV and G1 as CPV G1 and G2 respectively. CPV should be labeled as STV2, G1 should be labeled as CPV, and G2 should be labeled as G1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1-10 are objected to because of the following informalities:

Regarding **Claims 1 and 3-6**, have multiple instances where the limitation "second vertical starting signal" is brought up. However there is no mention of a "first vertical starting signal". It is suggested that all instances of the second vertical starting signal be changed to a first vertical starting signal.

Regarding **Claim 2**, the claim limitations call for a 60Hz refresh rate and an active address interval driven at 85Hz. However the drawings show a 60Hz refresh rate for both of these signals. The refresh rate for the LCD is 60Hz because one full period is 16.7ms. The refresh rate of the active driving interval is also 60Hz because even though the active driving interval is 11.2ms the full period from the beginning of one active driving interval to the next active driving interval is still 16.7ms because of the vertical blanking period. If the active driving interval were driven at 85Hz there would be no time left for the vertical blanking which would break the device. Therefore the claim should either be canceled for amended to read on the pulse width of the CPV signal rather than the frequency.

Appropriate corrections are required.

Allowable Subject Matter

This application is in condition for allowance except for the following formal matters: Minor informalities to the application as stated above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Nose et al.	US (6,819,311)
Weindorf	US (6,717,559)

The following are reasons for the indication of allowable subject matter:

Regarding independent **Claim 1**, prior art (Nose, Fig. 13) teaches all limitations of the claim except a current boosting section for increasing current amount supplied to the gate bus lines during the vertical blanking period interval in response to a pulse width modulation signal. It is noted that prior art does show a current boosting section responsive to a pulse width modulation signal (Weindorf, Fig. 1 element 106). However said current boosting section is not used to supply gate bus lines and is not operational during a vertical blanking period.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571)272-7776.

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The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 22nd, 2005 - kx -


SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER